## Claims

- 1. A method of derivatising a polymeric material of a type which includes encapsulated water, the method comprising:
  - (a) selecting a first hydrated polymeric material which includes encapsulated water;
  - (b) reducing the level of encapsulated water in said first hydrated polymeric material to produce a second polymeric material;
  - (c) treating said second polymeric material with derivatisation means for derivatising said second polymeric material.

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- 2. A method according to claim 1, wherein the difference between the wt% of water in said first polymeric material and that in said second polymeric material is at least 40wt% and said second polymeric material includes less than 10wt% of encapsulated water.
- 3. A method according to claim 1 or claim 2, wherein said first hydrated polymeric material comprises a third polymeric material which is cross-linked by a cross-linking means.
  - 4. A method according to any preceding claim, wherein said first polymeric material is prepared by selecting a third polymeric material and treating it with a said cross-linking means, wherein said third polymeric material includes functional groups selected from hydroxyl, carboxylic acid, carboxylic acid derivatives and amine groups.

- 5. A method according to claim 3 or claim 4, wherein said third polymeric material is a polyvinyl polymer.
- 5 6. A method according to any of claims 3 to 5, wherein said third polymeric material is polyvinylalcohol.
- 7. A method according to any preceding claims, wherein said first polymeric material comprises cross-linked polyvinylalcohol.
  - 8. A method according to any preceding claim, wherein said first polymeric material includes a moiety of formula I

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wherein  $L^1$  is a residue of said cross-linking material.

9. A method according to claim 3 or claim 4, wherein said cross-linking means comprises a fourth polymeric material which includes a repeat unit of formula

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wherein A and B are the same or different, are selected from optionally-substituted aromatic and heteroaromatic groups and at least one comprises a relatively polar atom or group and  $R^1$  and  $R^2$  independently comprise relatively non-polar atoms or groups.

10. A method according to claim 9, wherein A and B are different, are selected from optionally-substituted aromatic and heteroaromatic groups and at least one of A or B comprises a relatively polar atom or group, R<sup>1</sup> and R<sup>2</sup> independently comprise relatively non-polar atoms or groups.

15 11. A method according to any preceding claim, wherein said first polymeric material includes a moiety of formula

wherein R<sup>1</sup>, R<sup>2</sup> and B are as described in claims 9 and 10, A<sup>1</sup> represents a residue of group A described in claims 9 and 10 after the reaction involving said third and fourth polymeric materials, Y represents a residue of said fourth polymeric material after said reaction involving said third and fourth polymeric materials and X represents a linking atom or group extending between the residues of said third and fourth polymeric materials.

12. A method according to any preceding claim, wherein, in step (b), drying is undertaken at a temperature in the range 10°C to 60°C.

5 13. A method according to any preceding claim, wherein, in step (c), said second polymeric material is derivatised in a first derivatisation step wherein said second polymeric material is treated with a first derivatisation material which reacts with said second polymeric material wherein said reaction is carried out in the presence of less than 5wt% water and is carried out in an organic solvent.

14. A method according to claim 13, wherein said first derivatisation material includes one or more carbonyl, carboxyl, hydroxyl, epoxy, halogen or amino functional groups.

15. A method according to claim 13 or claim 14, wherein said first derivatisation material is selected from compounds of general formula

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wherein A, B,  $R^1$  and  $R^2$  are as described in claims 9 and/or 10.

16. A method according to any preceding claim, wherein derivatisation of the second polymeric material includes one or more derivatisation steps arranged to introduce a

linking moiety on said second polymeric material, wherein the linking moiety is arranged to link the second polymeric material to an active moiety.

- 5 17. A method according to claim 16, wherein the active moiety is biocompatible.
- 18. A method according to claim 16 or claim 17, wherein said active material is selected from amino acid containing moieties, peptides, proteins, conducting polymers, and organic semi-conductors or said active moiety may be part of a sensor for monitoring cell chemistry or biology.
- 15 19. A method according to any preceding claim, which involves increasing the level of encapsulated water at some stage after step (b).
- 20. A method of making a polymeric material, the method comprising:
  - (a) selecting a fifth polymeric material which comprises:
- (i) a third polymeric material as described in claims
  3 to 6 cross-linked by a fourth polymeric material as described in claims 9 or 10; or
  - (ii) a polymeric material which includes a moiety of formula VI as described in claim 11; and
- (b) treating said fifth polymeric material with derivatisation means for derivatising said fifth polymeric material.

- derivatised polymeric material prepared preparable in a method according to any of claims 1 to 19.
- 22. A method of preparing a material for a biological method comprising forming microapplication, the topographical features in a surface of a first, second or fifth polymeric material according to any preceding claim.
- 23. A polymeric material selected from said first, second or fifth polymeric materials or a hydrogel according to 10 any preceding claim having micro topographical features.
- care product comprising a derivatised wound polymeric material or hydrogel according to any preceding claim. 15
  - 25. A method of treatment of the human or animal body, the method comprising positioning a derivatised polymeric material, hydrogel or wound care product according to any preceding claim on or adjacent an area to be treated.

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26. The use of a polymeric material or hydrogel according to any preceding claim for the manufacture of a material for treatment of damaged and/or diseased tissues and/or wounds.